



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

MAY 11 2004

Mr. Younghans-Haug
Chemical Safety Programs Specialist
University of California, Irvine
Environmental Health and Safety
4600 Bison Avenue
Irvine, California 92697-2725

Ref. No.: 04-0040

This responds to your letter dated February 6, 2004, regarding the classification of formaldehyde solutions under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) and the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Aircraft (ICAO Technical Instructions). Specifically, you ask if we agree with your opinion that volumes of thirty (30) milliliters or less of 10% formaldehyde solutions in an outer package would not create in a cargo-hold aboard aircraft conditions as prescribed under Special Provision "A27" of the ICAO Technical Instructions.

The current HMR and the ICAO Technical Instructions have two entries for Formaldehyde solutions, as follows: "Formaldehyde solutions with not less than 25% formaldehyde, 8, UN 2209, III" and "Formaldehyde solutions, flammable, 3, 8, UN 1198, III". In the ICAO Technical Instructions, Special Provision "A27" is not specifically assigned to these entries. The HMR do not contain a Special Provision "A27". The quantity (30 milliliters) of the Formaldehyde solutions in the outer package is not relevant to classification of the material.

Formaldehyde solutions (10% formaldehyde) do not meet the classification criteria for either of these entries. However, the acute effects of Formaldehyde solutions have been well documented. Based on the definition for a Class 9 material in the HMR, it is the opinion of this Office that "10% Formaldehyde solution" meets the definition of a Class 9 material in § 173.140 and is subject to regulation when transported domestically by aircraft. The appropriate shipping description is: "Other regulated substances, liquid, n.o.s. (Formaldehyde), 9, NA 3082, III." All other applicable rules of the HMR apply. Shipments of formaldehyde solutions when transported internationally by aircraft must conform to the ICAO Technical Instructions.

For your information, formaldehyde solutions shipped in an inner packaging of 30 milliliters or less in accordance with the small quantities exceptions in §173.4 of the HMR are excepted from



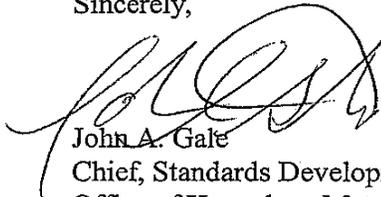
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marking, labeling, placarding and shipping papers, and emergency response information requirements of the HMR.

I hope this satisfies your inquiry. If we can be of further assistance, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Gale', written in a cursive style.

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

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Proper Shipping
Name
04-0040

ENVIRONMENTAL HEALTH AND SAFETY
4600 BISON AVE.
IRVINE, CALIFORNIA 92697-2725
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February 6, 2004

Director Ed Mazzullo
Department of Transportation
Office of Hazardous Materials Safety
Routing Attn: DHM-10
400 Seventh Street, SW
Washington DC, 20590

Subject: Request for formal Letter of Interpretation

Dear Director Mazzullo:

I am wondering whether your office would agree that small volumes of 10% formaldehyde solution would not create conditions described in Special Provision A27 of the IATA's 2004 Dangerous Goods Regulations.

Researchers commonly use 10% formaldehyde solution to preserve specimens. I anticipate that our researchers will want to ship preserved specimens to collaborate with colleagues at other research institutions.

Previous Letters of Interpretation have advised that the proper UN number, shipping name, and class for formaldehyde solutions less than 25% are respectively: UN 3334; Aviation Regulated Liquid, n.o.s.; Class 9. Special Provision A27 appears to allow for shipper's judgment. In this case, it is reasonable that small volumes of formaldehyde evaporated into a cargo-hold would not create extreme annoyance or discomfort to crew.

I propose that volumes thirty (30) milliliters or less of 10% formaldehyde solution per outer package are too low to create in a cargo-hold those conditions described in Special Provision A27.

The actual volume that would create conditions described in Special Provision A27 is likely much larger; and shippers should use judgment in the context of Special Provision A27. If possible for your office to state the volume of 10% formaldehyde it believes is too small to create conditions described in Special Provision A27, this would, in my opinion, help guide researchers at other U.S. institutions.

Our packaging consists of watertight primary container, absorbent padding, watertight secondary container, and then fiberboard outer packaging.

If you agree that volumes thirty (30) milliliters or less of 10% formaldehyde solution is too small of an amount create conditions described in Special Provision A27, then markings on outer packaging would not require an UN number, proper shipping name, or class. Nor would the shipper need to complete the Shipper's Declaration to declare the goods as dangerous.

Your office's formal Letter of Interpretation will allow us to provide accurate shipping guidance to our campus' researchers.

Cordially,


Chris Younghans-Haug
Chemical Safety Programs Specialist